

BOILER DUTY

(Blowdown excluded)

(A) OEM @ 5% Overpressure 481 HB 784 (1967 Steam Tables)

Econ/evap/superheater

Main steam flow	=	6,449,000	lb/h
Main steam enthalpy	=	1456.4	Btu/lb (p= 2532.2, t= 1000)
Final feedwater enthalpy	=	550.6	Btu/lb (p= 3200, t= 553.9)
Superheater spraywater flow	=	0	lb/h

$$\begin{aligned}\text{Heat added} &= 6,449,000 \times (1456.4 - 550.6) \\ &= \underline{5841.5 \times 10^6 \text{ Btu/h}}\end{aligned}$$

Reheater

Reheater steam flow	=	5,191,655	lb/h
Cold reheat enthalpy	=	1306.7	Btu/lb
Hot reheat enthalpy	=	1519.1	Btu/lb

$$\begin{aligned}\text{Heat added} &= 5,191,655 \times (1519.1 - 1306.7) \\ &= \underline{1102.7 \times 10^6 \text{ Btu/h}}\end{aligned}$$